

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

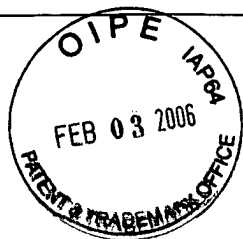
Applicant(s): Paul et al.

Serial No.: 10/813,566

Filed: 3/30/2004

Title: POWER AMPLIFIER CIRCUITRY
AND METHOD

Attorney Docket No.: SIL.P0077



Group Art Unit:

2817

Examiner:

SHINGLETON, MICHAEL B

Commissioner for Patents

PO Box 1450

Alexandria, VA 22313-1450

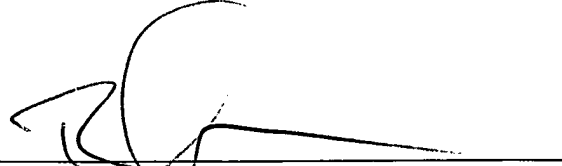
INFORMATION DISCLOSURE STATEMENT

This Information Disclosure Statement is submitted:

- ☒ under 37 CFR 1.97(b), or
(Within three months of filing national application; or date of entry of international application; or before mailing date of first office action on the merits; or before the mailing of a first Office Action after the filing of an RCE; whichever occurs last)
- ☐ under 37 CFR 1.97(c) together with either a:
 - ☐ (1) Certification under 37 CFR 1.97(e), or
 - ☐ (2) a \$180.00 fee under 37 CFR 1.17(p)
(After the CFR 1.97(b) time period, but before final action or notice of allowance, whichever occurs first)
- ☐ under 37 CFR 1.97(d) together with a:
 - ☐ Certification under 37 CFR 1.97(e), and
 - ☐ a \$180.00 fee under 37 CFR 1.17(p).
(Filed after final action or notice of allowance, whichever occurs first, but before payment of the issue fee)
- ☐ under 37 CFR 1.97(i)
(Not filed under either § 1.97 or § 1.98. IDS to be placed in the file)
- ☒ Applicant(s) submit herewith Form PTO 1449-Information Disclosure Citation together with copies, of non-US patents, publications or other information of which applicant(s) are aware, which applicant(s) believe(s) may be material to the examination of this application and for which there may be a duty to disclose in accordance with 37 CFR 1.56.

It is requested that the information disclosed herein be made of record in this application. The inclusion of references in this IDS is not an admission that the references are prior art.

Respectfully submitted,

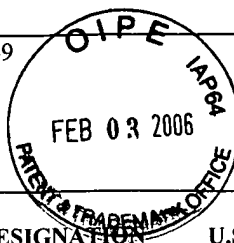
A handwritten signature in black ink, appearing to be 'Bruce A. Johnson', written over a horizontal line.

Bruce A. Johnson
Attorney for Applicant(s)
Reg. No. 97361

Date: 2-1-06

Customer Number 30163
Telephone No.: 512-301-9900

FORM PTO-1449



ATTY. DOCKET NO. SIL.P0077

SERIAL NO. 10/813,566

APPLICANT Paul et al.

FILING DATE 3/30/2004

GROUP 2817

REFERENCE DESIGNATION U.S. PATENT DOCUMENTS

EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLASS
		4,067,057	1/3/78	Taddeo		
		4,451,802	5/1984	Koinuma		
		4,590,436	5/20/86	Butler		
		4,670,832	6/2/87	Park		
		4,689,819	8/25/87	Killion		
		4,689,819 Exam. certificate	8/13/96	Killion		
		4,691,270	9/1/87	Pruitt		
		4,736,284	4/5/88	Yamagishi		
		5,144,133	9/1992	Dudley et al.		
		5,276,910	1/4/94	Buchele		
		5,311,150	5/1994	Engbretson et al.		
		5,768,112	6/16/98	Barrett		
		5,771,166	6/23/98	Lim		
		5,939,931	8/17/99	Noro		
		6,016,075	1/18/00	Hamo		
		6,072,362	6/6/00	Lincoln		
		6,147,886	11/14/00	Whittenbreder		
		6,188,274	2/2001	Vernon		
		6,300,827	10/2001	King		
		6,355,531	3/2002	Mandelman et al.		
		6,384,540	5/7/02	Porter		

FOREIGN PATENT DOCUMENTS

		DOCUMENT NUMBER	DATE	NAME	CLASS	SUB CLAS	TRANSLATION	
							YES	NO

OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

		Webster's Ninth New Collegiate Dictionary, copyright 1991, pages 384 and 1096, definitions of "drive" and "signal."
EXAMINER		DATE CONSIDERED

FORM PTO-1449	ATTY. DOCKET NO.	SIL.P0077	SERIAL NO.	10/813,566
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OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

		Broskie, The Accordion Amplifier -A new single-ended topology, published 2001, Tube Cad Journal.
		Billings, Switchable Power Supply Handbook McGraw-Hill 1999.
		Grant and Gowar, Power MOSFETs Theory and Applications, Wiley 1989.
		Cuk and Middlebrook, Advances in Switch-Mode Power Conversion Vol III, Teslaco 1983.
		Hamill, Class DE Invertors and Rectifiers for DC-DC Conversion, Power Electronics Specialist Conference, June 1996, 8 pp.
		Tomescu, A Unified Approach to Class E versus Quasi-Resonant Switch Topologies, IEEE Transactions on Circuits and Systems - II: Analog and Digital Signal Processing, Vol. 45, No. June 1998, pp. 763- 766.
		Pressman, Switching Power Supply Design, McGraw-Hill 1998, pp. 86, 101, 167, 176-177 and 482.

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OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

	Zulinski and Grady, Load-independent Class E Power Inverters: Part I Theoretical Development, IEEE Transactions on Circuits and Systems, Vol.37, No. 8, Aug. 1990, pp. 1010-1018.
	Albulet, An Exact Analysis of Class-DE Amplifier at any Output Q, IEEE Transactions on Circuits and Systems - I: Fundamental Theory and Applications, Vol. 46, No. 10, Oct. 1999, pp. 1228-1239.
	Koizumi, Sekiya, Matsuo, Mori and Sasase, Resonant DC/DC Converter With Class DE Inverter and Class E Rectifier Using Thinned-Out Method (Deleting Some of the Pulses to the Rectifier), IEEE Transactions on Circuits and Systems - I: Fundamental Theory and Applications, Vol. 48, No. 1, Jan. 2001, pp. 123-126.
	Kazimierczuk and Jozwik, DC/DC Converter with Class E Zero- Voltage-Switching Inverter and Class E Zero-Current-Switching Rectifier, IEEE Transactions on Circuits and Systems, Vol. 36, No. 11, Nov. 1989, pp. 1485-1488.
	Kazimierczuk and Szaraniec, Class D-E Resonant DC/DC Converter, IEEE Transactions on Aerospace and Electronic Systems, Vol. 29, No. 3, Jul. 1993, pp. 963-976.
	Kazimierczuk, Class-E Amplifier with an Inductive Impedance Inverter, IEEE Transactions on Industrial Electronics, Vol. 37, No. 2, Apr. 1990, pp. 160-166.
	Lee, Kim, and Chung, Control of PWM Current Source Converter and Inverter System for High Performance Induction Motor Drives, Proceedings of the 1996 IEEE IECON 22nd International Conference on Industrial Electronics, Control and Instrumentation, Aug. 1996, pp. 1100-1105.
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OTHER REFERENCES (including Author, Title, Date, Pertinent Pages, etc.)

		Ballan and Declercq, 12V Σ - Δ Class-D Amplifier in 5V CMOS Technology, IEEE 1995 Custom Integrated Circuits Conference, pp. 559-562.
		Hajimiri and Lee, Design Issues in CMOS Differential LC Oscillators, IEEE Journal of Solid-State Circuits, Vol. 34, No. 5, May 1999, pp. 717- 724.
		Tsai and Gray, A 1.9-GHz, 1-W CMOS Class-E Power Amplifier for Wireless Communications, IEEE Journal of Solid-State Circuits, Vol. 34, No. 7, July 1999, pp. 962-970.
		Boonyaroonate and Mori, Analysis and Design of Class E Isolated DC/DC Converter Using Class E Low dv/dt PWM Synchronous Rectifier, IEEE Transactions on Power Electronics, Vol. 16, No.4, July 2001, pp.514-521.
		Broskie, The Accordion Amplifier -A New Single-Ended Topology, published 2001, Tube Cad Journal.
		Kazimierczuk and Czarkowski, Resonant Power Converters, John Wiley & Sons, Inc. 1995, pp. 149-150 & 188-189.
		Severns and Bloom, Modern DC-To-DC Switchmode Power Converter Circuits, Van Nostrand Reinhold Company 1985, pp. 128-129.

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